

stituted a prediction in the sense that it could be tested by data discovered following proposal of the hypothesis. The presence of *minima* in the Old World, its relative primitiveness, and its clear affinities to the New World species of the subgenus lend support to the prediction, if they do not actually verify it. See Figure 7 for a map illustrating the distribution pattern of the subgenus *Isorembus*.

SUMMARY

1. The species *Diplocheila minima* Jedlička, 1931 is re-described.

2. On the basis of its morphological characteristics, *minima* is placed in the *striatopunctata* group of the subgenus *Isorembus*.

3. This species is important because first, its combination of characteristics links together more closely the known species groups of the subgenus *Isorembus*, and second, its presence in the Old World tends to confirm the previously made statement that the *striatopunctata* group is of Old World ancestry.

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Brachymeria intermedia (Nees) (Hymenoptera: Chalcididae) Established in North America

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Brachymeria intermedia (Nees) is a parasite of *Porthetria dispar* and other lepidopteran pupae in southern Europe and northern Africa. Burgess and Crossman (1929) describe the introduction of this parasite into this country as early as 1908, and Dowden (1935) discusses its biology.

Dowden (1935) noted that although 20,000 specimens of *B. intermedia* had been released in New England, none had been recovered, possibly because the climate of New England was colder than that in the Mediterranean area of Europe.

Burks (1960a) published the first record of recovery of this parasite. One adult was obtained from a pupa of *Cococcia* collected in Marion, Massachusetts, in 1942. Burks (1960b) considered this one record insufficient to demonstrate that this insect was established in North America.

During the summer of 1965, many *B. intermedia*¹ have been collected in Connecticut from gypsy moth pupae. The numbers of this parasite and its distribution indicate that it has become established in parts of this state. It is present in Oxford, Woodbury, Guilford, and Killingworth, where infestation of the gypsy moth has been high for several years, as well as in East Lyme, where a heavy infestation occurred for the first time in 1965.

Indications of the percentage of parasitism can be found in Table 1. Pupae were collected from three Connecticut towns.

TABLE 1. *The percentage of parasitism of Brachymeria intermedia* (Nees) in field collections of gypsy moth pupae from three Connecticut towns

Town	Date of Collection	Number of Pupae	Percentage Ichneumonid-Type Emergence Holes	Percentage <i>B. intermedia</i> Recovered
East Lyme	July 19-20	1073	29.2	4.8
Guilford	July 20-21	435	4.4	0*
Woodbury	July 23	149	10.7	1.3

* One adult collected in the field.

On the trees selected, all pupal cases on the trunk from 0-6 feet from the ground were collected. The dates of collection were after adult emergence, and supposedly after parasites had emerged from the pupae. However, *B. intermedia* were found to be emerging from some, and emergence continued in the laboratory until the week of August 1. Undoubtedly, some of

¹ Identification confirmed by Dr. B. D. Burks, Entomology Research Division A. R. S. U.S.D.A. Washington, D. C.

the *intermedia* had emerged in the field prior to the collection of pupae. The emergence holes of this parasite fit the ichneumonid emergence holes in the key of Campbell (1963). The percentage of parasitism cannot exceed the percentage of ichneumonid type emergence holes in the pupae.

Of considerable interest is the fact that this insect reached very high numbers in a short period of time. It does not appear likely that in the past this insect could have been at as high a population level as witnessed in 1965 and not have been noted. Moulton (pers. comm., 1965) reports that *Brachymeria* were rare in a collection of about 1,272,000 pupae from Connecticut in 1964. However, numbers of these parasites emerged from about 500,000 gypsy moth pupae in 1965.

In addition to the releases listed by Dowden (1963), the Plant Pest Control Division, U.S.D.A., released *B. intermedia* from Spain in Stratford and Redding, Connecticut, in 1963.

It would be difficult to explain the numbers and spread of *intermedia* as a direct result of these releases. It is more likely that *intermedia* had been maintaining itself at low population levels, as indicated by the four specimens collected in Oxford, Connecticut, in 1960 and the one reported by Burks from Massachusetts. *B. intermedia* appears now to be adapted to this environment.

This parasite has more than one generation per year. Although known primarily as a parasite of gypsy moth pupae, it also parasitizes other lepidopteran pupae (see Dowden 1935) and its high incidence may be correlated with an increase in numbers of other lepidopterans, perhaps of the leaf rollers that have recently been increasing in Connecticut.

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NOTICE. The December, 1965, issue of ENTOMOLOGICAL NEWS was mailed at the post office at Lancaster, Pa., on December 10, 1965.